

SELECTIVE SORBENTS FOR PURIFICATION OF HYDROCARBONS

ABSTRACT OF THE DISCLOSURE

A method for removing thiophene and thiophene compounds from liquid
5 fuel includes contacting the liquid fuel with an adsorbent which preferentially adsorbs the
thiophene and thiophene compounds. The adsorption takes place at a selected temperature
and pressure, thereby producing a non-adsorbed component and a thiophene/thiophene
compound-rich adsorbed component. The adsorbent includes either a metal or a metal
cation that is adapted to form π -complexation bonds with the thiophene and/or thiophene
10 compounds, and the preferential adsorption occurs by π -complexation. A further method
includes selective removal of aromatic compounds from a mixture of aromatic and
aliphatic compounds.